

REMARKS

Reconsideration of the application identified in caption in light of the remarks which follow, is respectfully requested.

In the Official Action, claims 1-4, 6, 7, 19 and 20 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,064,457 (*Aminaka*) in view of U.S. Patent No. 6,380,996 (*Yokoyama et al*). Claims 8-11, 13, 14, 21 and 22 stand rejected under 35 U.S.C. §103(a) as being obvious over *Aminaka* in view of U.S. Patent No. 6,034,755 (*Watanabe*) and further in view of *Yokoyama et al*. Withdrawal of these rejections is respectfully requested for at least the following reasons.

According to one aspect, independent claim 1 is directed to a liquid crystal display having a polarizing plate comprising a polarizing membrane and an optical compensatory film, said optical compensatory film having at least two optically anisotropic layers comprising first and second optically anisotropic layers, said first optically anisotropic layer being made from discotic compounds oriented in hybrid alignment, said second optically anisotropic layer consisting of a cellulose ester film, wherein the first optically anisotropic layer further contains a fluorine-containing polymer in the range of 0.005 to 8 wt.% based on the amount of components of a coating solution other than a solvent.

According to an additional aspect, independent claim 8 is directed to a liquid crystal display of reflection type.

Aminaka relates to a liquid crystal display of a bend alignment mode or a homogeneous alignment mode, and an ellipsoidal polarizing plate used in the liquid crystal display. Col. 1, lines 8-11.

Aminaka does not disclose or suggest each feature recited in independent claims 1 and 8. For example, as discussed above, claims 1 and 8 recite that the first optically anisotropic layer further contains a fluorine-containing polymer in the range of 0.005 to 8 wt.% based on the amount of components of a coating solution other than a solvent. Such claims further specify that the first optically anisotropic layer is made from discotic compounds oriented in hybrid alignment. *Aminaka* has no disclosure or suggestion of a first optically anisotropic layer made from discotic compounds oriented in hybrid alignment, which further contains a fluorine-containing polymer in the range of 0.005 to 8 wt.% based on the amount of components of a coating solution other than a solvent. This deficiency has been acknowledged by the Patent Office at page 4 of the Official Action.

Yokoyama et al relates to an optical compensatory sheet comprising an optically anisotropic layer formed of discotic liquid crystal molecules provided on a transparent substrate, and a liquid crystal display using the optical compensatory sheet. Col. 1, lines 12-16.

Yokoyama et al fails to cure the above-described deficiencies of *Aminaka*. In this regard, the Examiner has relied on *Yokoyama et al* for disclosing the use of a fluorine containing surface active agent (in particular, compounds FS-91 to FS-95 disclosed at column 17) in an optically anisotropic layer. Official Action at pages 4-5. However, it is respectfully but strenuously noted that *Yokoyama et al* fails to disclose or suggest employing such fluorine containing surface active agent in an optically anisotropic layer **being made from discotic compounds oriented in hybrid alignment**, as is presently claimed.

Concerning such fluorine containing surface active agent, *Yokoyama et al* discloses the following at column 12, lines 48-59:

In the present invention, the discotic liquid crystal molecules are so aligned that **an average inclined angle between discotic planes of the discotic liquid crystal molecules and a surface of the transparent substrate is less than 5°**. To obtain the above-mentioned alignment of the discotic liquid crystal molecules, a specific amount of a specific compound is preferably used to cause a phase separation between the compound and the discotic liquid crystal molecules. Examples of the compounds causing the phase separation include a cellulose ester of a lower fatty acid, **a fluorine containing surface active agent** and a 1,3,5-triazine compound. [Emphases added.]

Thus, *Yokoyama et al* teaches that the fluorine containing surface active agent is employed in order to obtain an alignment in which the discotic liquid crystal molecules are so aligned that an average inclined angle between discotic planes of the discotic liquid crystal molecules and a surface of the transparent substrate is less than 5°. This alignment is shown in Fig. 2 of *Yokoyama et al* in the optically compensatory sheet 24, where the average inclined angle θ between discotic planes of the discotic liquid crystal molecules 24a and a surface of the transparent substrate is less than 5°. Col. 5, lines 20-28; col. 4, lines 47-54. *Yokoyama et al* provides no disclosure or suggestion of employing the fluorine containing surface active agent in an optically anisotropic layer being made from discotic compounds oriented in hybrid alignment. Quite to the contrary, *Yokoyama et al* teaches that the fluorine containing surface active agent is employed to obtain an alignment in which the discotic liquid crystal molecules are so aligned that an average inclined angle between discotic planes of the discotic liquid crystal molecules and a surface of the transparent substrate is less than 5°, which is completely different from a hybrid alignment.

It is noted that *Yokoyama et al* does disclose a second optically anisotropic layer (element 25 shown in Fig. 2) in which the discotic liquid crystal molecules are aligned in a hybrid alignment. Col. 5, lines 20-40. Concerning such second optically anisotropic layer, *Yokoyama et al* discloses the following at column 34, lines 35-40:

The details of the second optically anisotropic layer are the same as those of the (first) optically anisotropic layer, except that the additives decreasing the inclined angle of the discotic planes (a cellulose ester of a lower fatty acid, **a fluorine containing surface active agent**, a 1,3,5-triazine compound) **are not used**. [Emphases added.]

Thus, in no unclear terms, *Yokoyama et al* **teaches away** from employing the fluorine containing surface active agent in the second optically anisotropic layer. The reasons for *Yokoyama et al*'s admonition against employing the fluorine containing surface active agent in the second optically anisotropic layer are entirely clear from the disclosed function of such agent and the disclosed structure of the second optically anisotropic layer. Whereas the purpose of the fluorine containing surface active agent is to obtain an alignment in which the discotic liquid crystal molecules are so aligned that an average inclined angle between discotic planes of the discotic liquid crystal molecules and a surface of the transparent substrate **is less than 5°**, the average inclined angle between discotic planes of the discotic liquid crystal molecules and a surface of the transparent substrate **is not less than 5° in the second optically anisotropic layer**.

In view of the fact that *Yokoyama et al* **teaches away** from employing the fluorine containing surface active agent in the hybrid alignment optically anisotropic layer, it would not have been obvious to modify *Aminaka* to arrive at the claimed first optically anisotropic layer made from discotic compounds oriented in hybrid

alignment, which contains a fluorine-containing polymer in the range of 0.005 to 8 wt.% based on the amount of components of a coating solution other than a solvent.

Watanabe fails to cure the above-described deficiencies of *Aminaka* and *Yokoyama et al.* In this regard, the Examiner has relied on *Watanabe* for disclosing the use of a reflective HAN mode LCD. Official Action at page 9. However, like the other applied art, *Watanabe* fails to disclose or suggest a first optically anisotropic layer being made from discotic compounds oriented in hybrid alignment, wherein the first optically anisotropic layer further contains a fluorine-containing polymer in the range of 0.005 to 8 wt.% based on the amount of components of a coating solution other than a solvent.

Furthermore, it is submitted that the surprising and unexpected results attainable by aspects of the claimed invention are evident in view of the Declaration Pursuant to Rule 132 of Yoji Ito previously filed on September 27, 2007.

For at least the above reasons, it is apparent that the claims are not obvious over the applied art. Accordingly, withdrawal of the above §103(a) rejections is respectfully requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

If there are any questions concerning this paper or the application in general,
the Examiner is invited to telephone the undersigned.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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By:

A handwritten signature in black ink, appearing to read "R. Lee", is written over a horizontal line.

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